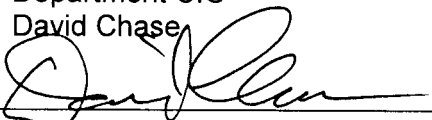STATE OF CALIFORNIA
Budget Change Proposal - Cover Sheet
DF-46 (REV 08/15)

Fiscal Year 2016-17	Business Unit 2240	Department Housing and Community Development	Priority No. 2

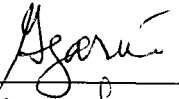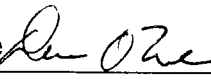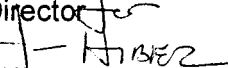| Budget Request Name 2240-002-BCP-DP-2016-GB	Program 9900100	Subprogram

Budget Request Description
CAPES Application Development

Budget Request Summary
The Department of Housing and Community Development (HCD) requests an augmentation of $568,000 in expenditure authority for the Consolidated Automated Program Enterprise System (CAPES) to fund application development support.

Requires Legislation ☐ Yes ☒ No	Code Section(s) to be Added/Amended/Repealed

Does this BCP contain information technology (IT) components? ☒ Yes ☐ No *If yes, departmental Chief Information Officer must sign.*	Department CIO David Chase	Date 1-6-2016

For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.

☐ FSR   ☐ SPR   Project No.   Date:

If proposal affects another department, does other department concur with proposal?   ☐ Yes   ☐ No
Attach comments of affected department, signed and dated by the department director or designee.

Prepared By Geoff Garcia	Date 12/31/2015	Reviewed By Dave O'Toole	Date 12-31-15
Department Director Susan Riggs	Date 12/31/2015	Agency Secretary	Date 1-5-16

BCP Fiscal Detail Sheet

DP Name: 2240-002-BCP-DP-2016-GB

Budget Request Summary

	CY	BY	FY16 BY+1	BY+2*	BY+3*	BY+4*
Salaries and Wages						
Earnings - Permanent	0	316	316	316	316	316
Total Salaries and Wages	$0	$316	$316	$316	$316	$316
Total Staff Benefits	0	148	148	148	148	148
Total Personal Services	$0	$464	$464	$464	$464	$464
Operating Expenses and Equipment						
5301 - General Expense	0	16	16	16	16	16
5302 - Printing	0	4	4	4	4	4
5304 - Communications	0	12	12	12	12	12
5306 - Postage	0	4	4	4	4	4
5320 - Travel: In-State	0	12	12	12	12	12
5322 - Training	0	4	4	4	4	4
5344 - Consolidated Data Centers	0	4	4	4	4	4
5346 - Information Technology	0	20	20	20	20	20
5368 - Non-Capital Asset Purchases -	0	28	28	28	28	28
570 - Internal Cost Recovery	0	0	-40	-40	-40	-40
Total Operating Expenses and Equipment	$0	$104	$64	$64	$64	$64
Total Budget Request	$0	$568	$528	$528	$528	$528

Fund Summary

Fund Source - State Operations	CY	BY	BY+1	BY+2*	BY+3*	BY+4*
0001 - General Fund	0	55	46	46	46	46
0530 - Mobilehome Park Purchase Fund	0	19	18	18	18	18
0813 - Self-Help Housing Fund	0	95	89	89	89	89
0890 - Federal Trust Fund	0	57	53	53	53	53
0927 - Joe Serna, Jr. Farmworker Housing	0	57	54	54	54	54
0929 - Housing Rehabilitation Loan Fund	0	76	71	71	71	71
0980 - Predevelopment Loan Fund	0	19	18	18	18	18
0985 - Emergency Housing and Assistance	0	57	53	53	53	53
3228 - Greenhouse Gas Reduction Fund	0	19	18	18	18	18
6038 - Building Equity and Growth in	0	38	36	36	36	36
6068 - Affordable Housing Innovation Fund	0	19	18	18	18	18
6069 - Regional Planning, Housing, and	0	19	18	18	18	18
6082 - Housing for Veterans Funds	0	19	18	18	18	18
9736 - Transit-Oriented Development	0	19	18	18	18	18
Total State Operations Expenditures	$0	$568	$528	$528	$528	$528
Total All Funds	$0	$568	$528	$528	$528	$528

Program Summary

Program Funding	CY	BY	BY+1	BY+2*	BY+3*	BY+4*
1665 - Financial Assistance Program	0	568	528	528	528	528
9900100 - Administration	0	568	568	568	568	568
9900200 - Administration - Distributed	0	-568	-568	-568	-568	-568
Total All Programs	$0	$568	$528	$528	$528	$528

Analysis of Problem

A. Budget Request Summary

Summary of the Request. The Department of Housing and Community Development (HCD) requests $568,000 in expenditure authority to use various HCD funds to fund application development support for the Consolidated Automated Program Enterprise System (CAPES). CAPES is an enterprise-level system that allows HCD to manage its housing portfolio, including tracking and monitoring projects, loans, and grants. This request is necessary due to the increased demand for CAPES system enhancements to support HCD housing program operations.

Business Problem. CAPES requires near-constant updates and enhancements to accommodate evolving housing program requirements and ensure the proper administration, tracking, and reporting of HCD housing program operations, while enabling HCD to meet state and federal requirements for providing affordable housing for Californians. There is an ongoing and growing backlog of CAPES enhancements to be developed and deployed. In addition, further requests for application development services have been curtailed or deferred because the workload of existing staff has been redirected to address CAPES deficiencies.

Source of the Problem. With an unexpected reduction in project resources, CAPES was put into production in 2007 without the components necessary to fully realize project objectives. At the time, the workload and resources required to complete the project within the original scope was significantly underestimated. In order to complete the project with the available resources and meet the schedule, the systems integrator reduced the scope of the project and eliminated a number of key functions and capabilities, which resulted in a number of critical requirements being deferred at implementation. While CAPES has since been substantially enhanced to meet HCD's operational requirements at a minimal level, every new housing program implementation or improvement to housing program administration requires a corresponding CAPES application programming effort. Application enhancements are added to an already heavy workload of scheduled CAPES improvements each time a new program is administered by HCD or budgetary or legislative changes are made to existing programs.

Proposed Solution. HCD will design and implement required system enhancements and ensure that the CAPES Project is completed fully and expeditiously. Additionally, the continuing backlog will be reduced to a sustainable level and continuing requests for system enhancements can be fulfilled as scheduled.

B. Background/History

HCD implemented CAPES in 2007 to serve as an enterprise-level data collection and organization system to accurately manage and report essential housing program and funding information. The system awards, tracks, monitors, and reports housing loans and grant information. The system also supports existing business practices and current workload requirements, while being flexible enough to accommodate increasing system demands and support future program innovations. This custom-designed web-based software consists of approximately 450 screens and 450 data tables to allow for data entry of program information and storage into one repository. Each module in CAPES can be customized for program staff to capture information required to complete the business processes employed in the disbursing and monitoring of various housing grants and loans. Any customization employs the Software Development Life Cycle (SDLC) process to gather the users' requirements and design specifications, so that the Application Development Section (ADS) staff can develop the Java interface and/or Oracle database to meet program needs, including customized data entry fields and menu selections.

The initial functionality of CAPES was severely reduced at implementation due to the systems integrator's underestimation of the development effort and staff resources required to complete the project. With the approval of HCD management, the scope and functionality of the initial CAPES implementation was significantly altered to complete the system on schedule. After implementation, HCD terminated the systems integrator's contract, and ADS staff became ultimately responsible for

Analysis of Problem

operating, updating, and maintaining CAPES. While system performance has significantly improved over time, a large number of system enhancements have been identified since the initial implementation.

Funding History. A budget specifically authorized for CAPES does not exist. Expenditures are charged to the Distributed Administration budget as a component of the Information Technology Branch (ITB) and allocated as an overhead cost to programs that use the system. The following table reflects ITB's budget allotment, where positions and contractors working on CAPES maintenance charge staff time.

Resource History

Program Budget	PY - 4	PY - 3	PY - 2	PY - 1	PY	CY
Budget Allotment	$812,000	$801,000	$789,000	$975,000	$970,000	$994,000
Actual Expenditures	$718,321	$436,212	$691,110	$907,517	$1,003,598	n/a
Revenues	$0	$0	$0	$0	$0	$0
Authorized Positions	3.0	4.0	4.0	4.0	4.0	4.0
Filled Positions	3.0	4.0	4.0	4.0	4.0	4.0
Contractors	2.0	2.0	2.0	2.0	2.0	2.0
Vacancies	0.0	0.0	0.0	0.0	0.0	0.0

The table below reflects the type of enhancements completed with existing resources. (Please see Attachment A for more data.)

Workload History

Workload Measure	PY - 4	PY - 3	PY - 2	PY - 1	PY	CY
Pending Items	**672**	**527**	**508**	**594**	**707**	**611**
• Major Enhancements[1]	69	73	77	80	84	87
• Minor Enhancements[2]	28	26	24	17	33	24
• Maintenance Tickets[3]	575	428	407	497	590	500
Items Completed	**599**	**451**	**430**	**516**	**624**	**526**
• Major Enhancements[1]	2	1	1	2	1	2
• Minor Enhancements[2]	22	22	22	17	33	24
• Maintenance Tickets[3]	575	428	407	497	590	500
Percent Completed						
• Major Enhancements[1]	3%	1%	1%	3%	1%	2%
• Minor Enhancements[2]	79%	85%	92%	100%	100%	100%
• Maintenance Tickets[3]	100%	100%	100%	100%	100%	100%

[1] Major enhancements go through the entire SDLC process, each taking 800 to 1,200 hours to complete. An enhancement may take over a year to deploy, depending on its complexity.

[2] Minor enhancements require less business analysis and development time. On average, each item can be completed in about 200 hours.

[3] Maintenance tickets are simple enhancements related to ongoing bug fixes, code clean-up, data clean-up, performance issues, report fixes, document updates, etc. Most tickets come in a bulk request of 5-20 tickets for a particular housing program or function (e.g., contract activities, accounting reconciliation, underwriting, etc.). These requests will continue until a permanent fix is implemented.

C.   State Level Considerations

With inadequate capacity to perform necessary programming changes to CAPES, HCD is at risk of not meeting its operational objectives. The efficiency of managing the $5 billion housing portfolio is compromised and reports used to make operational decisions could be subject to erroneous information that may have adverse effects to both the department and the public. Additionally, complaints and litigation may arise as a result of management decisions based on inaccurate program information and statistics.

D.   Justification

Constant need for CAPES enhancements. CAPES must be continually updated and enhanced to accommodate housing program requirements and address improvements to its existing functionality. HCD currently administers over 74 programs that award loans and grants for the construction, acquisition, rehabilitation, and preservation of affordable rental and ownership housing, homeless shelters and transitional housing, and public facilities and infrastructure. Every new housing program implementation or improvement to housing program administration requires a corresponding CAPES application programming effort in order to add new functionality or update an existing feature that enable proper data analysis. Since 2008-09, the following programs were established and required new programming:

- 2008-09: Neighborhood Stabilization Program, Disaster Recovery Initiative
- 2009-10: American Recovery and Reinvestment Act Funding
- 2014-15: Affordable Housing Sustainable Communities Program, Veterans Housing and Homelessness Preventions Program, Multifamily and Supportive Housing (General Fund Augmentations), Drought Housing Rental Subsidies
- 2015-16: Drought Housing Relocation Assistance Program, Office of Migrant Services Capital Repair Projects

New requirements for CAPES application enhancement requests continue to be added due to legislative or budgetary changes that create new tracking and reporting requirements. In addition, compatibility and data migration issues occur in the ongoing transfer of data from legacy systems containing information on the older portfolio and default reserves. Moreover, the Division of Financial Assistance (DFA), the Housing Policy Division (HPD), and the Administration Management Division (AMD) have requested ITB improve program operations with Business Process Automation functionality, which would prompt the need for further CAPES enhancements.

The initial system lacked critical system functions upon deployment. A large number of system functions were not included in the 2007 launch and were deferred until after implementation. For example, report generation and the functionality to support HCD's underwriting processes were removed from the final project scope. Furthermore, system performance was very poor upon the initial system launch; simple transactions took over five minutes to complete. As a result, in 2007, ITB took over the task of making CAPES fully functional and undertook a 12-month remediation program. Following that initial effort, ITB, in conjunction with HCD program management, identified a long-term strategy for fixing CAPES shortcomings and improving its overall performance.

Growing Backlog. Requests for enhancements to CAPES have been submitted by end users as the need for new or additional features were identified. However, the amount of enhancements requested each year consistently exceeds the number of enhancements that existing IT staff are able to complete. Existing staff resources only allow about two major enhancements to be completed annually, while on average, five new ones are added each year to the growing backlog (Refer to Attachment A). Depending on its complexity, it can range from 800 to 1,200 hours of staff time to complete, and even longer if it is dependent on minor enhancements to first be implemented. It may also take over a year to deploy the enhancement, particularly if complications occur during any of the SDLC phases.

Analysis of Problem

At the time CAPES was first launched, it was not possible for system engineers to anticipate all program needs. Therefore, the CAPES Core Team was formed, which includes DFA, AMD, and ITB staff, to review and prioritize proposed system enhancements based on criticality and impact. Upon approval, proposed system enhancements are added as an item to be scheduled for completion through the SDLC process. As of the start of 2015-16, approximately 75 new proposals have yet to be reviewed to determine whether a major or minor enhancement will be approved and added to the backlog.

Furthermore, additional requests for application development services have been completely curtailed or deferred because the workload of existing staff has been redirected to addressing the CAPES workload. Some of these requests have negatively impacted the work functions and research capabilities of other units including the Human Resources Branch, the Audit and Evaluations Division, and HPD. For example, ITB alone has been unable to fulfill desired requests to develop custom applications or provide system automation to enable online testing of District Representatives, the ability to manage issue tracking, or provide contact tracking and other management capabilities.

E.   Outcomes and Accountability

Required CAPES enhancements will be completed on schedule, and requested enhancements will, if approved through the CAPES governance process, be analyzed, documented, prioritized, and scheduled for development and implementation. As a result, the following will be achieved:

- Increased staff confidence in CAPES
- Increased data accuracy and completeness
- Improved controls
- Increased staff efficiency
  - Less time validating data
  - Increased use of existing reports
  - Elimination of silo systems
- Increased HCD credibility
- A new foundation for performance enhancements

The table below reflects the type of enhancements projected to be completed. (See Attachment A for more data.)

Projected Outcomes

Workload Measure	CY	BY	BY + 1	BY + 2	BY + 3	BY + 4
Pending Items	**611**	**606**	**601**	**596**	**591**	**586**
Major Enhancements	87	82	77	72	67	62
Minor Enhancements	24	24	24	24	24	24
Maintenance Tickets	500	500	500	500	500	500
Items Completed						
Major Enhancements	2	10	10	10	10	10
Minor Enhancements	24	24	24	24	24	24
Maintenance Tickets	500	500	500	500	500	500
Percent Completed[1]						
Major Enhancements	2%	12%	13%	14%	15%	16%
Minor Enhancements	100%	100%	100%	100%	100%	100%
Maintenance Tickets	100%	100%	100%	100%	100%	100%

[1] The additional resources requested will allow ITB to complete pending major enhancements to minimize the backlog at an increasing and achievable pace.

Analysis of Problem

This BCP will support HCD's strategic plan, goals, mission, vision, and values.

HCD is frequently tasked with administering new housing programs. With verified and trusted information in the CAPES system, HCD can better use data analytics to evaluate program efficiencies, for both the past and present. Ultimately, HCD can use CAPES data to help craft programs that most effectively meet the needs of its stakeholders.

F.   Analysis of All Feasible Alternatives

Alternative 1. Approve an augmentation of $568,000 in expenditure authority for CAPES application development to fund application development support due to the increased demand for system enhancements to support HCD housing program operations.

Pros:
- Provides additional long-term capacity to address a growing backlog.
- Allows HCD to better manage and report essential housing program and funding information by being able to track necessary fiscal information in an enterprise-level data collection and organization system.
- HCD can better use data analytics to evaluate programs efficiencies, for both the past and present, and help craft programs that most effectively meet the needs of its stakeholders.
- Provides a higher return on investment from the initial funding spent on the implementation of CAPES.
- Utilizes existing state staff resources.
- Not mandating that specific position types be filled for CAPES enhancements affords HCD's IT management staff the ability to quickly adapt to frequent changes in the IT environment.

Cons:
- Increases the baseline costs of state operations in the AMD budget by the requested amount.

Alternative 2. Approve funding for outside contractors exclusively.

Pros:
- Provides additional capacity to address a growing backlog.
- Enables HCD to procure the services of required business analysts and Java developers.

Cons:
- Increases baseline costs for operating expenses and equipment at an amount higher than requested in Alternative 1 due to the significantly higher cost of contractors.
- Contractors may resign in the middle of a project phase should they receive a lucrative offer to work elsewhere.

Alternative 3. Reduce and limit the current number of required CAPES enhancements.

Pros:
- Alleviates the ADS workload completion gap.

Cons:
- Negatively impacts HCD's ability to improve efficiency of CAPES-supported program operations.
- Limits the performance of the CAPES system.
- Increases the risk of not fully performing state or federal housing program oversight and control processes.

G.   **Implementation Plan**

Upon the enactment of the Budget Act, staff will be recruited and hired in Fiscal Year 2016-17 to augment the ADS staff.

H.   **Supplemental Information**

The following attachment is included in this BCP package:

- Attachment A: Workload Estimates (Existing and Proposed)

I.   **Recommendation**

Alternative 1. Approve an augmentation of $568,000 in expenditure authority to fund application development support for CAPES due to the increased demand for system enhancements to support HCD housing program operations.

	2010-11 PY-4	2011-12 PY-3	2012-13 PY-2	2013-14 PY-1	2014-15 PY	2015-16 CY	2016-17 BY	2017-18 BY+1	2018-19 BY+2	2019-20 BY+3	2020-21 BY+4
Total Hours	8,890.00	10,668.00	10,668.00	10,668.00	10,668.00	10,668.00	10,668.00	10,668.00	10,668.00	10,668.00	10,668.00
PY Equivalent [1]	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Completed per Year											
Major Enhancements	2	1	1	2	1	2	2	2	2	2	2
Minor Enhancements	22	22	22	17	33	24	24	24	24	24	24
Maintenance Tickets	575	428	407	497	590	500	500	500	500	500	500
Total	**599**	**451**	**430**	**516**	**624**	**526**	**526**	**526**	**526**	**526**	**526**
Growth Rate											
Major Enhancements	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minor Enhancements	24	24	24	24	24	24	24	24	24	24	24
Maintenance Tickets	500	500	500	500	500	500	500	500	500	500	500
Total	**529**	**529**	**529**	**529**	**529**	**529**	**529**	**529**	**529**	**529**	**529**
Scheduled Items											
Major Enhancements	69	73	77	80	84	87	90	93	96	99	102
Minor Enhancements	28	26	24	17	33	24	24	24	24	24	24
Maintenance Tickets	575	428	407	497	590	500	500	500	500	500	500
Total	**672**	**527**	**508**	**594**	**707**	**611**	**614**	**617**	**620**	**623**	**626**
Percent Completed											
Major Enhancements	2.9%	1.4%	1.3%	2.5%	1.2%	2.3%	2.2%	2.2%	2.1%	2.0%	2.0%
Minor Enhancements	78.6%	84.6%	91.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
CAPES Maintenance	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

[1] Includes two external contractors.

Workload Estimates (Proposed)

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	PY-4	PY-3	PY-2	PY-1	PY	CY	BY	BY+1	BY+2	BY+3	BY+4
Total Hours	8,890.00	10,668.00	10,668.00	10,668.00	10,668.00	10,668.00	17,780.00	17,780.00	17,780.00	17,780.00	17,780.00
PY Equivalent [1]	5.0	6.0	6.0	6.0	6.0	6.0	10.0	10.0	10.0	10.0	10.0
Completed per Year											
Major Enhancements	2	1	1	2	1	2	10	10	10	10	10
Minor Enhancements	22	22	22	17	33	24	24	24	24	24	24
Maintenance Tickets	575	428	407	497	590	500	500	500	500	500	500
Total	**599**	**451**	**430**	**516**	**624**	**526**	**534**	**534**	**534**	**534**	**534**
Growth Rate											
Major Enhancements	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minor Enhancements	24	24	24	24	24	24	24	24	24	24	24
Maintenance Tickets	500	500	500	500	500	500	500	500	500	500	500
Total	**529**	**529**	**529**	**529**	**529**	**529**	**529**	**529**	**529**	**529**	**529**
Scheduled Items											
Major Enhancements	69	73	77	80	84	87	82	77	72	67	62
Minor Enhancements	28	26	24	17	33	24	24	24	24	24	24
Maintenance Tickets	575	428	407	497	590	500	500	500	500	500	500
Total	**672**	**527**	**508**	**594**	**707**	**611**	**606**	**601**	**596**	**591**	**586**
Percent Completed											
Major Enhancements	2.9%	1.4%	1.3%	2.5%	1.2%	2.3%	12.2%	13.0%	13.9%	14.9%	16.1%
Minor Enhancements	78.6%	84.6%	91.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
CAPES Maintenance	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

[1] Includes two external contractors.